

Prevention

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bulletin

Influenza Strains Providers, Public Health System

by Karen Lewis, MD

Influenza came in with a bang this winter. However, if we are fortunate, the influenza outbreak in Arizona will have started to wane by the time you read this article. This season may or may not turn out to be much worse than usual, but there are a few things healthcare providers should be aware of this year.

The first laboratory-confirmed influenza case of the season in Arizona was identified in mid-October, much earlier than during four of the previous five seasons. Influenza was reported as "widespread" in Arizona for the week ending December 6, 2003. Nationally, the influenza season also had an early start, with 24 states reporting widespread activity by the end of the first week in December.

The predominant influenza strain nationally is A/Fujian (H3N2), a drift variant of the A/Panama (H3N2) strain included in this year's vaccine. Both A/Fujian and A/Panama strains have been identified from Arizona isolates. All influenza specimens subtyped by the Arizona State Health Laboratory as of December 10 were influenza A(H3N2).

Data change quickly during an influenza season, so the statewide picture may look very different by the time of publication. For current

information on influenza activity in Arizona or nationally, please visit the website for ADHS at www.hs.state.az.us/phs/oids/epi/flu/ or for CDC at www.cdc.gov/flu/weekly/index.htm

As of this writing, several hundred cases of influenza from 12 counties had been laboratory-confirmed by either rapid testing or viral culture. The percentage of visits for influenza-like illnesses at sentinel providers around the state increased steadily from the week ending November 15 through the week ending December 19. At least three influenza-associated deaths among children had also been confirmed.

Bacterial infections complicating influenza

Several deaths have occurred this year in the United States due to pneumonia from the combination of influenza and methicillin-resistant *Staphylococcus aureus* (MRSA). Respiratory morbidity and mortality from influenza can be due to either viral pneumonia, or a secondary bacterial pneumonia.

Bacterial pathogens such as *Streptococcus pneumoniae*, *Haemophilus influenzae*, or group A beta-hemolytic streptococcus can cause pneumonia even without influenza. However, the incidence of *S. aureus*

as a cause for pneumonia is three times more common when associated with influenza (1).

Physicians are seeing more patients with community-acquired MRSA infections. Therefore, it is not surprising to find MRSA complicating influenza. Since *S. aureus* pneumonia can have a fulminant course, the

choice of empiric antibiotics is very important. So, when a patient with influenza-like symptoms has worsening respiratory distress, consider a bacterial pneumonia, order cultures, and start broad-spectrum antibiotics pending culture results.

Empiric antibiotics that would cover MRSA, *S. pneumoniae*, *H. influenzae*, and group A beta-hemolytic streptococcus would be Vancomycin and a third generation cephalosporin (like ceftriaxone/Rocephin® or cefotaxime/Claforan®).

So, when a patient with influenza-like symptoms has worsening respiratory distress, consider a bacterial pneumonia, order cultures, and start broad-spectrum antibiotics pending culture results.

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Oral antibiotics that often cover MRSA include trimethoprim-sulfamethoxazole (although it gives poor *S. pneumoniae* coverage), clindamycin, or linezolid/Zyvox®. (Note: Linezolid should only be used in *extraordinary* cases, where the infection is known to be due to a multiply resistant organism such as MRSA, and effective antibiotics such as TMP-SMZ and clindamycin are contraindicated.)

Some physicians in Arizona have been seeing many patients who test positive for *both* influenza and group A beta-hemolytic streptococcus. Please remember to consider the possibility of secondary bacterial infections in patients with influenza.

Influenza vaccine supply

Manufacturers produced 85.5 million doses of inactivated influenza vaccine for the U.S. for the 2003-2004 influenza season. This was expected to be adequate for the demand. For example, 79 million doses of vaccine were sold in the U.S. for the 2002-2003 influenza season (2). However, demand increased due to widely publicized illnesses and pediatric deaths. The Arizona supply of inactivated influenza vaccine was mostly gone by the middle of December; however, Federal resources were mobilized to send more vaccine into the states for high-risk groups.

Plan for next year

Influenza vaccination not only protects high-risk individuals. It also decreases influenza in health care workers (who spread influenza to their patients) (3), decreases morbidity associated with day care spread of influenza (4), and decreases work absenteeism in health adults by 43% (5). Start planning now to get ready for next year's influenza outbreak!

Karen Lewis, MD, is an infectious disease specialist with the Arizona Department of Health Services. She can be reached at 602.364.3289 or klewis@hs.state.az.us.

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New CDC Guidelines on SARS

By Bob England, MD

The CDC has published guidelines to quickly detect and contain SARS, even in the absence of known SARS anywhere in the world, at www.cdc.gov/ncidod/sars/updatedguidance.htm. The major points for health care providers and institutions are:

Promote "respiratory hygiene." This is a bigger deal than one might think. It means providing masks in every waiting room and encouraging those with a cough to use them. It means providing alcohol-based hand sanitizer in convenient locations in waiting rooms, so that patients can use it after handling tissues and so forth. It means teaching patients to use these and teaching front desk staff to encourage their use. During colds and flu season, we should see a large fraction of those in the waiting room and elsewhere wearing masks.

Ask three questions of every patient hospitalized with pneumonia without a known underlying etiology. Have they, within 10 days of symptom onset:

- Had a history of recent travel to mainland China, Hong Kong, or Taiwan, or had close contact with ill persons with a history of recent travel to such areas? or;
- Been employed in an occupation at particular risk for SARS-CoV exposure? (This includes any healthcare worker with direct patient contact or a worker in a laboratory that contains live SARS-CoV.) or;
- Been part of a cluster of cases of atypical pneumonia without an alternative diagnosis? (i.e., ask whether they've

been around anyone else with pneumonia.)

If you get a yes answer to any of the above, REPORT the case to your local health department. (Also, let us know as soon as an alternative etiology is discovered).

If SARS does return, guidelines still in draft form may ratchet this up to include the same questions and reporting of any patient with a fever or respiratory symptoms. That's potentially a lot of patients.

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Noteworthy

Earn CME Credits for Public Health Lectures

Are you interested in learning more about SARS?



Influenza?
Smallpox?
Other emerging infections? The Arizona Department of Health Services'

Office of Emergency Preparedness and Response offers one hour lectures through the Public Health Emergency Preparedness and Response Lecture series.

The lectures include the following subjects: SARS; Influenza; West Nile Virus; Category A agents of Bioterrorism; Smallpox; and Respiratory Illness: Is It Viral, Bacterial, or Bioterrorism?

Each lecture is designated to provide up to one hour of category one credit of CME. Lectures will be given by Dr. Peter Kelly and Dr. Karen Lewis. The lecturers will bring the lectures to you, and are available to groups of doctors throughout the state.

Call 602.364.3289 for more information and to schedule lectures.

Providers Urged to Report Varicella Cases

As the use of varicella vaccine causes further decline in chickenpox cases, there will be greater opportunity for real control of this once common disease. In addition, we need an accurate baseline count of adult cases of varicella in order to monitor the effect of the vaccine on the vaccinated population as it ages. To do this, the public health system needs good surveillance.

The Arizona Department of Health Services encourages the reporting of all varicella cases, especially those among adults. All varicella should be reported to the local health department by the

health care provider as per the Arizona Administrative Code (A.A.C. R9-6-301). This year, the Department is also implementing the Arizona School-based Chickenpox Surveillance System for reporting of chickenpox by select schools and child care centers. Reports from providers and information gathered through sentinel surveillance will be important for monitoring changes in the epidemiology of this disease in Arizona.

Please contact your local health department or the Arizona Department of Health Services Infectious Disease Epidemiology Section at 602.364.3676 if you have any questions about reporting varicella or need additional Communicable Disease Report forms.



2003 West Nile Wrap-Up

In 2003, the State Health Lab tested approximately 2,100 mosquito samples, 1,200 chicken bloods and 200 human specimens. In addition, the University of Arizona Veterinary Diagnostic Lab tested more than 230 horses and 870 dead birds. As of Dec. 22, 2003, the following turned up positive for West Nile: 12 humans; 98 mosquito pools; 54 birds; 26 sentinel chickens; and 111 horses.

A tremendous amount of teamwork occurred between the state, tribal and county health departments, as well as the University of Arizona Diagnostic Lab, State Health Laboratory, Arizona Dept of Agriculture, Arizona Game and Fish, Yuma County Pest Abatement District, Navajo Veterinary Service, Indian Health Services, many large animal veterinarians, and others for the bounty of surveillance data gathered this year.

To bolster the state's West Nile virus surveillance efforts, the Arizona Department of Health Services issued an emergency order in August

making West Nile virus a reportable disease. Under the order, a physician or an administrator of a health care facility is required to submit a communicable disease report of a case or a suspect case of West Nile within 24 hours of diagnosis to the local health agency. Additionally, clinical laboratories are required to report to the Department.

For more information, contact your local health department or ADHS at 602.364.3851.

SARS *continued from page 2*

On our end, that's also a lot of reports that we will have to investigate, looking for clusters, particularly suspicious cases, and determining whether SARS testing may be appropriate. SARS testing is available at the State Lab, but there is a high false positive rate in a setting of little or no known disease. SARS testing will therefore be limited to patients with certain epidemiologic factors as determined case-by-case by the local health department. We have developed a SARS Reference Guide for local health departments, will have reporting rules in place, and we're gearing up for a LOT of ruling-out.

Does this make sense? Absolutely. SARS exploded within health care facilities that missed that first case, so high suspicion is warranted, within reason. We are of course unlikely to find the first case of a new outbreak before cases are found in Asia, so ask the right questions but keep your differential diagnosis in perspective. More importantly, perhaps, is that the emphasis on respiratory hygiene will go a long way to prevent the spread of all sorts of respiratory infections, and that should make life better for all of us.

Bob England, MD, is the State Epidemiologist and can be reached at 602.364.3582 or benglan@hs.state.az.us.



Medical Professionals: A Key Component of Substance Abuse Treatment

By Lisa Shumaker

As a chronic, life-threatening condition, substance abuse has extraordinarily negative effects on the health, behavior, and development of human beings. Substance abuse contributes to 100,000 deaths in the United States per year and costs society billions of dollars each year.

Medical professionals are in a unique position to identify substance abuse problems in patients and initiate treatment early. Doctors, nurses, and physicians assistants are encouraged to screen patients for substance abuse as a part of inquiring about other lifestyle issues. If substance abuse is suspected, medical professionals should refer the patient to a licensed behavioral health provider for a thorough assessment and treatment. Because substance abuse exacerbates other medical conditions, medical professionals should screen for substance abuse whenever unusual symptoms are observed that may indicate substance abuse.

Affordable treatment is available throughout Arizona for addiction treatment. Federal and State appropriations are passed down from the Division of Behavioral Health through Regional Behavioral Health Authorities (RBHAs) to providers for individuals enrolled in AHCCCS and other groups depending on funding availability.

Facts About Substance Abuse in Arizona

- More Arizona teens smoke marijuana than tobacco.
- 20% of Arizona high school students go to school intoxicated.
- 10% of Arizona residents have a drug or alcohol problem.
- Senior citizens exhibit a high rate of alcohol abuse.
- Illicit drug use in Arizona is increasing.
- Arizona's rate of illicit drug use ranks among the ten highest in the Nation.
- Most people addicted to substances cannot stop using them without help.
- Only 1/4 of the people who need treatment for substance abuse receive it.

Providers strive to enhance support systems through integration of substance abuse treatment with community and family systems. As part of a new initiative, behavioral health providers are developing treatment teams for each person in the behavioral health system. Treatment teams are composed of the client, persons the client identifies as family, and persons who have knowledge of or influence on the individual's recovery.

As a part of the team, medical professionals treat medical conditions, encourage continuing participation in behavioral health services, conduct follow up visits after treatment termination, and monitor

progress. Individuals addicted to alcohol or other drugs often have co-occurring physical health problems and injuries such as: fractures, chronic pain, depression, anxiety, gastritis, high blood pressure, sprains, strains, burns, headaches, and arthritis. Medical professionals can instruct patients in alternative methods to relieve pain, anxiety, and insomnia such as: physical therapy, relaxation methods, ice, heat, massage, deep breathing, and/or meditation. Medications a physician might normally prescribe for pain, or insomnia (such as narcotics) can trigger relapse in patients with substance abuse disorders. This is why coordination of care between the Primary Care Provider and the Substance Abuse Treatment Provider is essential.

Regional Behavioral Health Authorities (RBHAs) can recommend a substance abuse treatment facility in your community.

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RBHA	Counties Served	Phone Number
The EXCEL Group	Yuma and La Paz	1.800.880.8901
Community Partnership of Southern Arizona	Pima, Graham, Greenlee, Cochise, and Santa Cruz	1.800.771.9889
Value Options	Maricopa	1.800.564.5465
Northern Arizona Regional Behavioral Health Authority	Mohave, Coconino, Apache, Navajo, and Yavapai	1.800.640.2123
Pinal Gila Behavioral Health Authority	Pinal and Gila	1.800.982.1317
TRBHA	Tribe Served	Phone Number
Gila River Health Care Corporation	Gila River Indian Community	602.528.1343
Navajo Nation	Navajo Nation	928.871.6239
Pasqua Yaqui	Pasqua Yacqui	520.879.6060

References

Bureau of Substance Abuse and General Mental Health (1998). Substance Use in Arizona: Final Report of the 1996 Telephone Household Survey. Arizona Department of Health Services.

Wright, Douglas (2003). State Estimates of Substance Use from the 2001 National Household Survey on Drug Abuse: Volume I. Findings (DHHS Publication No. SMA 03-3775, NHSDA Series H-19) Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Lisa Shumaker is a Community Program Representative in the ADHS Division of Behavioral Health Services. She can be reached at 602.364.4600 or lshumak@hs.state.az.us.

National Alcohol Screening Day

National Alcohol Screening Day (NASD) is a free annual event to raise awareness about alcohol's effect on health and to screen for at-risk drinking. NASD is a ready-to-use education and screening program that explores alcohol effects on health and connects people in need with treatment. In-person trainings & web-based training are available to sites wishing to participate in NASD. NASD will take place on April 8, 2004. If you are an agency that would like to participate in NASD or for additional information, please contact Cora Bagley at 602.364.4612.

Some Indicators of Substance Use

- Consumes more than 4 alcoholic drinks at one time (men) at least once per month.
- Consumes more than 3 alcoholic drinks at one time (women) at least once per month.
- History of a problem with alcohol or other substances.
- Neglects responsibilities due to binge drinking or drug use.
- Prior hospitalization for drugs or alcohol.
- History of taking prescription medications in inappropriate doses or combinations.
- Spouse or significant other is concerned about the patients' substance abuse.

New State Health Laboratory Expected to Open in June 2004



The Arizona Department of Health Services new State Laboratory facility is under construction with expected completion and occupancy by June 2004. Much of the external construction has been completed. The remaining work involves completion of the installation of the chemical fume hoods, biological safety cabinets, autoclaves and laboratory casework.

The state-of-the-art laboratory will contain approximately 75,000 gross square feet. The first floor will be administrative offices, training facilities, storage, mechanical systems and the loading dock for receipt of supplies and delivery of specimens. The second floor will house all of Microbiology; the third floor will be Chemistry.

The laboratory will contain advanced security systems, communications and conferencing networks. A seminar/conference center will accommodate up to 100 people. This space can also be subdivided to host smaller presentations. A training laboratory has been included to host sessions of 16 students in laboratory procedures training ranging from Biological Safety Level III to less complex standard methodologies.

The Design-Build Team of Gilbane Construction, CUH2A Architects, the Arizona Department of Administration and the Arizona Department of Health Services have collaborated to develop an extremely successful project.



SUMMARY OF SELECTED REPORTABLE DISEASES

Year to Date (January - November, 2003)^{1, 2}

	Jan - Nov 2003	Jan - Nov 2002	5 Year Median Jan - Nov
VACCINE PREVENTABLE DISEASES:			
<i>Haemophilus influenzae</i> , serotype b invasive disease (<5 years of age)	7 (3)	6 (4)	6 (4)
Measles	1	0	1
Mumps	0	1	2
Pertussis (<12 years of age)	79 (50)	221 (103)	213 (103)
Rubella (Congenital Rubella Syndrome)	0 (0)	0 (0)	0 (0)
FOODBORNE DISEASES:			
Campylobacteriosis	791	671	584
<i>E.coli</i> O157:H7	39	36	36
Listeriosis	10	16	16
Salmonellosis	737	711	725
Shigellosis	531	564	553
VIRAL HEPATITIDES:			
Hepatitis A	271	286	432
Hepatitis B: acute	286	226	169
Hepatitis B: non-acute ³	935	1,040	960
Hepatitis C: acute	7	6	11
Hepatitis C: non-acute ³ (confirmed to date)	8,533 (3,232)	9,460 (4,776)	5,671 (2,085)
INVASIVE DISEASES:			
<i>Streptococcus pneumoniae</i>	504	709	708
<i>Streptococcus</i> Group A	146	281	188
<i>Streptococcus</i> Group B in infants <30 days of age	21	24	38
Meningococcal Infection	14	31	31
SEXUALLY TRANSMITTED DISEASES:			
Chlamydia	12,121	13,569	11,624
Gonorrhea	3,352	3,385	3,800
P/S Syphilis (Congenital Syphilis)	170 (18)	172 (14)	175 (26)
DRUG-RESISTANT BACTERIA:			
TB isolates resistant to at least INH (resistant to at least INH & Rifampin)	6 (1)	9 (0)	9 (1)
Vancomycin resistant <i>Enterococci</i> isolates	713	944	879
VECTOR-BORNE & ZOO NOTIC DISEASES:			
Hantavirus Pulmonary Syndrome	0	1	3
Plague	0	0	0
Animals with Rabies ⁴	70	137	95
ALSO OF INTEREST IN ARIZONA:			
Coccidioidomycosis	2,430	2,724	1,773
Tuberculosis	199	204	197
HIV	493	449	449
AIDS	431	388	455
Lead Poisoning (<16 years of age)	273 (246)	223 (200)	259 (200)

¹ Data are provisional and reflect case reports during this period except Lead Poisoning which is by date of diagnosis.

² These counts reflect the year reported or tested and not the date infected.

³ Case counts for non-acute Hepatitis B and C are not available before 1998.

⁴ Based on animals submitted for rabies testing.



HIV and AIDS in the State of Arizona

Since 1981, the first year of HIV/AIDS reporting in Arizona, a total of 8,785 AIDS cases and 5,545 cases of HIV(non-AIDS) were reported to the Arizona Department of Health Services. Of these, 53 percent of the AIDS cases and 9 percent of the HIV cases are deceased (See Figure 1).

Cases of HIV and AIDS are distributed disproportionately in state metropolitan centers. Maricopa County, the state's largest urban area, comprises 60 percent of Arizona's population and 70 percent of the AIDS cases and 72 percent of the HIV cases. Pima County, the next most populous urban county with 16 percent of the state's population, has 20 percent of the state's AIDS cases and 19 percent of its HIV cases. The remaining cases, less than one-fourth of the total, are scattered across the rest of Arizona.

Despite increases over the past ten years in heterosexual transmission, the primary risk factor in Arizona for HIV continues to be among men who have sex with men (MSM), followed by intravenous drug use (See Figure 2.). Overall reports of HIV infection have fallen during the decade between these time periods, from 1,902 during 1990-1992 to 1,405 during 2000-2002.

For more information on HIV/AIDS, contact ADHS at 602.364.3610 or visit the web at www.hs.state.az.us.

Figure 1

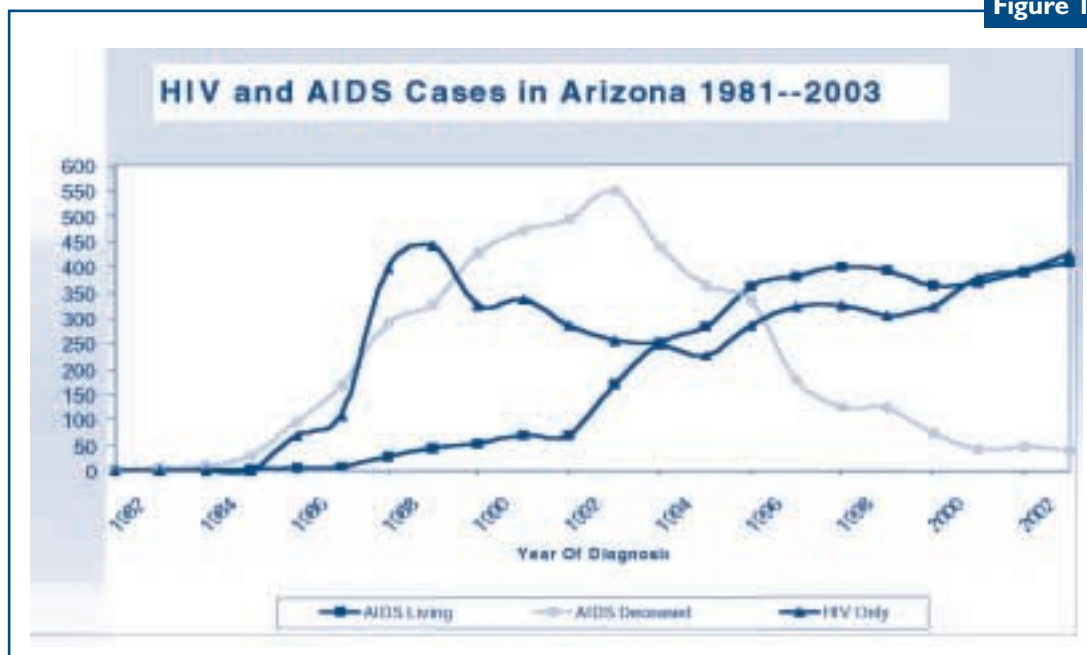
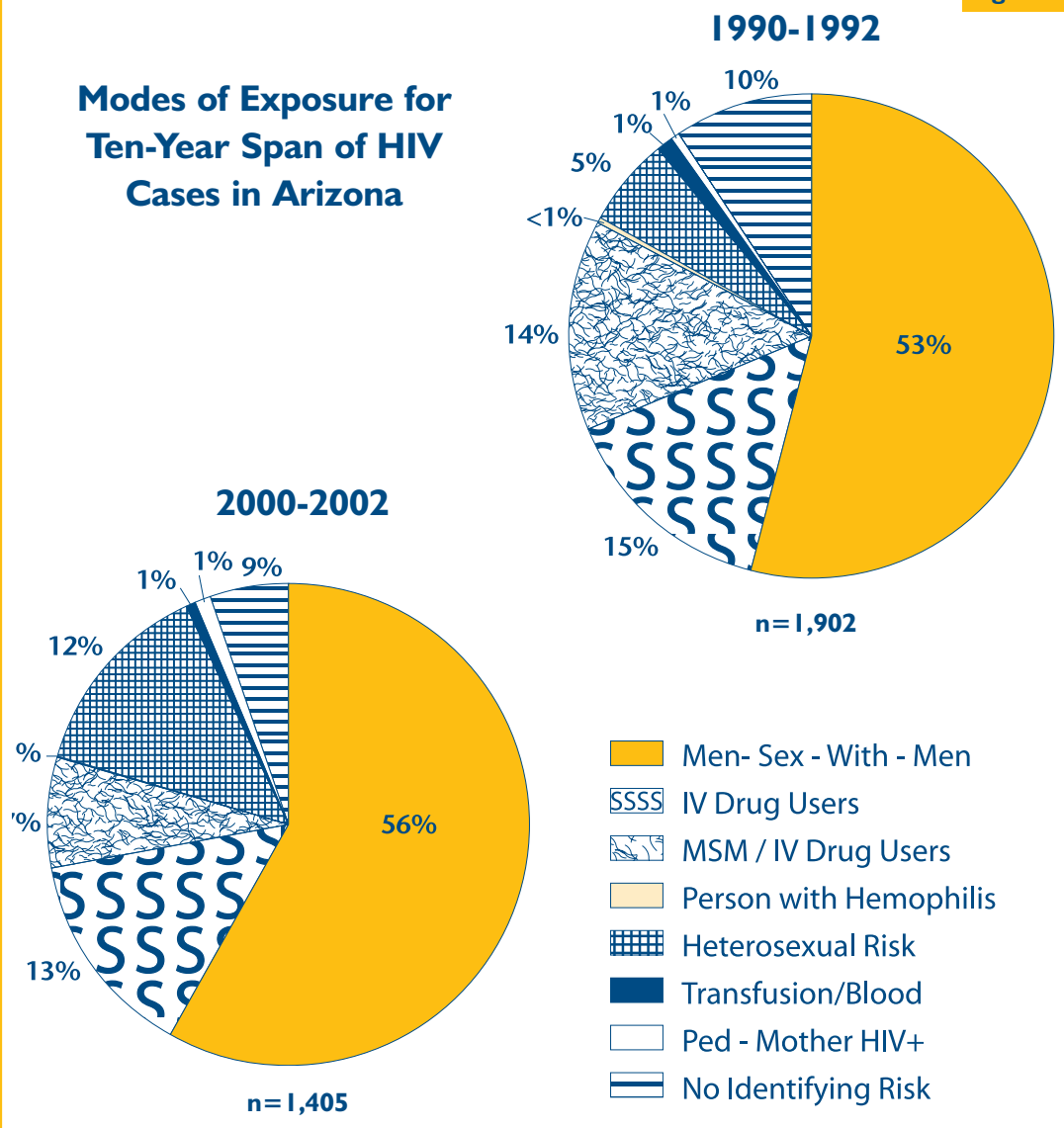


Figure 2

Modes of Exposure for Ten-Year Span of HIV Cases in Arizona



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New Communicable Disease Rules Published

Proposed revisions to the communicable disease rules in 9 A.A.C. 6, Articles 1, 2, 3, 5, and 6 will be published in the *Arizona Administrative Register* on January 9, 2004. The Notice of Proposed Rulemaking is the result of a lengthy rule drafting process during which the Bureau of Epidemiology and Disease Control Services (BEDCS) solicited and obtained input from interested persons starting in March 2003.

In preparing the proposed rules, BEDCS seriously considered each of the comments received and made numerous changes in response to those comments. BEDCS believes that the proposed rules reflect the best means to improve Arizona's system for detecting, reporting, controlling, and preventing communicable diseases and thereby to protect and improve the public health.

BEDCS will be holding three oral proceedings (in Phoenix, Flagstaff, and Tucson) to obtain public comment on the proposed rules:

February 9, 2004; 1:00 p.m.
1740 W. Adams,
Room 411
Phoenix, AZ 85007

February 10, 2004; 1:00 p.m.
1500 E. Cedar Ave.,
Suite 22
Flagstaff, AZ 86004

February 11, 2004; 1:00 p.m.
400 W. Congress
Room 5
Tucson, AZ 85701

Written comments may also be submitted, until 5:00 p.m. on February 13, 2004, to the individuals identified in the Notice of Proposed Rulemaking.

On January 9, 2004, the Notice of Proposed Rulemaking will be



available for review on the ADHS website by going to www.hs.state.az.us/diro/admin_rules/proposed.htm and selecting the link for "Communicable Diseases and Infestations" under Division of Public Health Services. If you do not have access to the ADHS website and would like a copy of the proposed rules, please call 602.364.0781 to request a copy.